



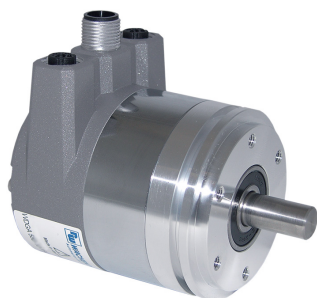
Online Data Sheet

엠펙루트 EtherCAT 통신 마그네틱 로터리 엔코더 (COV) WDGA 58A 시리즈

Wachendorff Automation ... systems and encoders

- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

Encoder WDGA 58A absolute EtherCAT magnetic, with bus cover and with EnDra® - Technology



EnDra®
Technologie

EtherCAT®

1. **EtherCAT** 프로토콜 절대형 로터리 엔코더
 - 인터페이스 : **Industrial Ethernet**
 - 프로토콜 : **EtherCAT**
 - 디바이스 프로파일 : **CiA DS-406 V4.0.2, Class 3**
 - 전송속도 : **100BASE-TX**
 - **CoE(CAN application protocol over EtherCAT)** 대응
 - **FoE(File Access over EtherCAT)** 대응
 - **EoE(Ethernet over EtherCAT)** 대응

2. **EnDra®** 기술을 활용한 멀티턴 분해능
 - 최대 **43bit** 대응
 - 위치 기억의 위한 배터리, 기어 불필요

3. **IP67**의 보호 기능 - 방수/방진 로터리 엔코더

Mechanical Data	
Housing	
Flange	synchro flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Connection cover	die cast aluminum, powder coated
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature, approx. 1.416 in-ozf at ambient temperature
Shaft	Ø 6 mm
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 12 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 8 mm
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 19 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 9.525 mm, Ø 3/8"
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 20 mm, L: 0.787 in
Max. Permissible shaft loading radial	220 N, 22.434 kp
Max. Permissible shaft loading axial	120 N, 12.237 kp
Bearings	

Bearings type	2 precision ball bearings
Nominal service life	1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	8000 rpm

Machinery Directive: basic data safety integrity level	
MTTF _d	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data	
Power supply/Current consumption	10 VDC up to 32 VDC: typ. 125 mA
Power consumption	typ. 3 W

Sensor data	
Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 65,536 steps/360° (16 bit)
Single-turn accuracy	± 0.0878° (≤ 12 bit)
Single-turn repeat accuracy	± 0.0878° (≤ 12 bit)
Internal cycle time	50 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	43 bit

Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	200 m/s ² (10 Hz up to 1000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface	
Interface:	Industrial Ethernet
Protocol:	EtherCAT

Device Profile:	CiA DS-406 V4.0.2, Class 3
Data Transfer:	100BASE-TX
Cycle time:	up to 50 µs
Function:	Multiturn
Code:	binary, CW default, programmable
Programmable Parameter:	steps per revolution counts of revolution preset scale counting direction 2x 8 cam switches DC-Mode
Diagnostics: (LED)	Traffic and connection management: L/A1: Port 1 (IN) L/A2: Port 2 (OUT)
Status LED:	STAT, MOD: status of encoder and bus

General Data

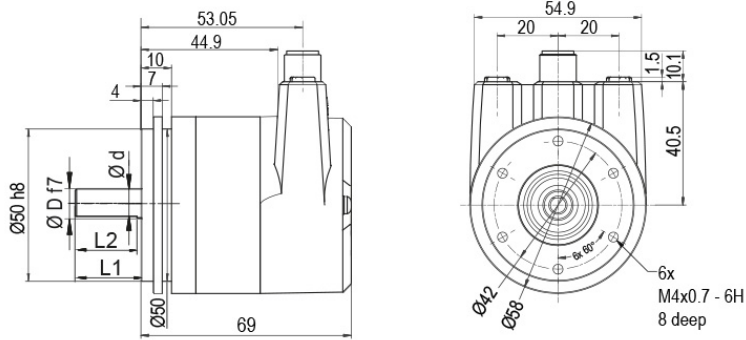
Weight	approx. 700 g, approx. 24.7 oz
Connections	bus cover
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

General technical data and safety instructions
<http://www.wachendorff-automation.com/gtd>

Options
<http://www.wachendorff-automation.com/acc>

WDGA 58A EtherCAT, BI2, bus cover with 3x M12x1



D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
 D = 8, L1 = 19, d = 7.5, L2 = 15 shaft with flat
 D = 10, L1 = 20 shaft with out flat*
 D = 3/8", L1 = 20, d = 8.3, L2 = 10 shaft with flat

* Option full IP67 version: (only D = Ø 10 mm)

D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

Description

BI2 Bus cover with 3x M12x1

Assignments	
	BI2
Female connector (Port1) IN	M12x1, 4-pin, D-coded
Tx+	1
Rx+	2
Tx-	3
Rx-	4

Assignments	
	BI2
connector (Power)	M12x1, 4-pin, A-coded
(+) Vcc	1
n. c.	2
GND	3
n. c.	4

Assignments	
	BI2
Female connector (Port2) OUT	M12x1, 4-pin, D-coded
Tx+	1
Rx+	2
Tx-	3
Rx-	4

Options

Shafts sealed to IP67, only with 10 mm shaft with flat

Order key

The encoder WDGA 58A EtherCAT (con) can be supplied in a full IP67 version.

AAS

Max. RPM: 3500 min⁻¹

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

Example Order No.	Type	Your encoder
WDGA 58A	WDGA 58A	WDGA 58A
	Shaft	Order key
06	Ø 6 mm Attention: No option AAS = full IP67 version	06
	Ø 8 mm Attention: No option AAS = full IP67 version	08
	Ø 10 mm	10
	Ø 9.525 mm Ø 3/8" Attention: No option AAS = full IP67 version	4Z
	Single-turn Resolution	Order key
13	Single-turn resolution 1 up to 16 bit, e. g. 12 bit = 12	12
	Multi-turn Resolution	Order key
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18
	Data protocol	Order key
EC	EtherCAT (with bus cover)	EC
	Software	Order key
U	up to date release	U
	Code	Order key
B	binary	B
	Power supply	Order key
0	10 V up to 32 V (standard)	0
	Galvanic isolation	Order key
1	yes	1
	Electrical connections	Order key
BI2	Connection cover:	
	Bus cover with 3x M12x1	BI2
	Options	Order key
	Without option	Empty
	Shafts sealed to IP67, only with 10 mm shaft with flat	AAS

Example Order No.	WDGA 58A	06	13	12	EC	U	B	0	1	BI2	
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WDGA 58A											Example Order No.
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For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
http://www.wachendorff-automation.com/distributors_worldwide.html

CREKEN

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